REMARKS

Initially, Mr. Minogue and Applicants' attorneys would like to thank the Examiner for the courtesy of the interview on December 14, 2005. Although no resolution was reached during the interview, it is believed that prosecution was nonetheless advanced. The Examiner's suggestion to add more structure to the claims, in particular with reference to the electrodes, has been acted upon as is apparent by these amendments.

During the interview, the Examiner expressed interest in German Patent DE 2014944. Enclosed herewith as Appendix A is a translation of the '944 patent which is believed to be accurate. It is further believed that the reference itself does not impact the prosecution of the instant application as it does not teach or suggest the features of amended claims 1 and 52, and in particular does not teach the specific features discussed below.

Claims 1, 3-37, 39-58, and 60-75 are in this application with claims 1, and 52 having been amended herein and new claims 72-75 added.

35 U.S.C. § 102 REJECTION

The Office Action rejects claims 1, 3-11, 14-28, 32-39, 44-45, and 48-49 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,381,012 to Russek. It is submitted that independent claim 1, as amended, patentably distinguishes over the relied upon portions of Russek for at least the following reasons.

Initially, the claim 1 has been amended to positively recite "at least three electrodes." During the interview it was understood that the Examiner has not given these elements any patentable weight because of the manner in which they were previously recited in claim 1.

Further, as amended Claim 1 recites:

> a selecting means for selectively defining electrodes to define electrode pairs from the at least three electrodes, and for selectively applying the at least one pulsed signal to the selected electrode pairs for selective stimulation of one or more of the muscles;
>
> a main locating means provided on the belt for locating a central electrode of the at least three electrodes in a position overlapping a midline of the subject

It is respectfully submitted that Russek does not teach a "selecting means" as recited in claim 1.

Further, Russek fails to teach a means for locating a central electrode "in a position overlapping a midline of the subject." Previously the Examiner had cited to Fig. 7, and elements 51 and 52 as being alternatively "central electrodes" or "locating means for the central electrode." During the interview, it was argued that 51 and 52 could not be the locating means because locating an electrode across 51 and 52 would result in an electrical short and render the device useless. The instant amendments to the claims further clarifies the position of the central electrode and the inapplicability of the Examiner's argument.

Further, as shown in Fig. 7, neither 51 nor 52 overlaps a midline of a subject. Indeed, Russek teaches against such a configuration as element 4, is described as useful "so that the patient may align same with, for example, the spine." Col. 3, lines 20-21. It is submitted that if element 4 is over the spine, which represents the midline of a subject, elements 51 and 52 cannot.

Accordingly, claim 1, as amended patentably distinguishes over the relied upon portions of Russek and is allowable. It is respectfully requested that the rejection of claim 1 be withdrawn. Further, as claims 3-11, 14-28, 32-39, 44-45, and 48-49 depend from allowable claim 1, it is requested that these rejections also be withdrawn.

35 U.S.C. § 103 REJECTIONS

The Examiner has rejected claims 52-58, and 60 under 103(a) as unpatentable over U.S. Patent No. 5,724,996 to Piunti in view of Russek. It is respectfully submitted that claim 52 has been amended in a similar fashion as independent claim 1, above. The shortcomings of Russek described above, are not overcome with reference to Piunti. Accordingly, independent claim 52 patentably distinguishes over the relied upon portions of the cited references and is allowable.

The Examiner has also rejected claims 29, 30-31, 46-47 and 50-51 under 35 U.S.C. § 103(a) as unpatenable over Russek, either alone, or in view of U.S. Patent No. 5,190,036 Linder. Further, the Examiner has rejected claims 61-71 under 35 U.S.C. § 103 as unpatentable over Piunti.

In response, it is respectfully submitted that because each of these claims depends from either claim 1 or 52, which have been distinguished over the relied upon portion of the cited references above, claims 29, 30-31, 46-47, 50-51, and 61-71 are similarly patentably distinguished over the cited references. Accordingly, withdrawal of these rejections is earnestly solicited.

CONCLUSION

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable over the cited prior art, entry of the foregoing amendment is respectfully requested and early and favorable consideration thereof is solicited.

Please charge any fees incurred by reason of this response and not paid herewith to Deposit Account No. 50-0320.

Respectfully submitted,

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Appendix A

2014944

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COLOGNE 1, DEICHMANNHAUS

23 March 1970
Sch-DB/ls

PALKAY (PROPRIETARY) LIMITED
65 Kruis Street, Johannesburg

An apparatus for electrotherapeutical treatment

The invention relates to an apparatus for the purpose of electrotherapeutical treatment, of the muscles in particular, electrical pulses being given off intermittently at particular nerve centres of the body, in order to achieve a contraction of the muscles controlled by those nerve centres. Apparatuses of this kind are used for the purpose of slimming, of muscle strengthening, and, in some cases, of psychotherapy.

The electrical pulse is sent out by an electrode, which has the form of a flexible pad made of conductive material, which is generally held on the body by means of a belt or of a plate (sheet).

It is difficult, in this connection, to locate the electrode precisely on the nerve centres.

Three kinds of plate are known in connection with the aforementioned apparatuses. In regard to the first, the electrodes have the correct positioning for the muscles of the back and neck, in regard to the second, for the muscles of the abdomen and of the hip, and, in regard to the third, for the muscles of the hips and of the buttock. There already exist, plates of certain standard sizes having non-displaceably disposed electrodes, which, however (since human size and build vary within wide limits), are often unsatisfactory at least inasmuch as there is difficulty in locating the electrodes correctly on the body.

The invention seeks to remedy this defect and to provide an improved apparatus, which is distinguished in particular by the manner of connection of electrode pads and plate.

According to the invention, the characterising feature of an apparatus for the purpose of therapeutical treatment of human muscles lies in the fact that it comprises a plate having at least one row of reciprocally independent holes, and in that at least one electrode pad can be connected, by means of press-fastener-like fastening elements which penetrate through the holes of the plate, to a holding portion which can be attached to the surface of the plate which is directed away from the pad.

An embodiment of the invention given by way of example is described in more detail with reference to the drawing, in which:

Fig. 1 is the plan view of a plate for a muscle-strengthening apparatus, in particular for the muscles of the neck and back, four electrode pads disposed detachably in suitable positions being represented by dotted lines, and

Fig. 2 is a view of the plate according to Fig. 1 partially exploded so that the means for connecting the pad to the plate can be seen.

A plate for back and neck has a flexible supporting layer 10, preferably in plastic, which is substantially triangular in form, and is provided with fastening straps 12 extending from the apexes, which are shown incompletely.

Normally, four substantially rectangular, detachable electrode pads 14, represented in outlines, are fixed to the plate 10. In this connection, the detachable fastening of all pads, with the exception of the middle one in the top row of Fig. 1, is effected with the aid of press fasteners, which can be passed through various fastening holes 16 in the supporting layer 10.

According to Fig. 2, the pad 14 has an outer edge strip 18, which surrounds a flat, flexible electrode 20. A positive press-fastener portion 22 having a pin 23 is disposed on the underside of each end of the pad 14. A negative press-fastener portion 24 having a pin socket 25 to accommodate the pin 23 is arranged on one side of a flat strip 26. The pad 14 is held firmly on the supporting layer 10 by the engagement of the two press-fastener portions 23 and 25 together. It can be seen from the drawings that the fastening holes 16 are arranged in relation to one another in such a way that the pad 14 can be fixed in three different positions on the supporting layer 10, by disengaging the press-fastener portions from one another, displacing the pad from one pair of holes to another, guiding the respective pins 23 of the positive press-fastener portions 22 through the other holes 16, and pressing the strip 26 against the supporting layer 10, until the press-fastener portions engage together.

The arrangement according to the invention makes it possible to sell a standard plate, provided with a suitable number of fastening points for the electrodes, to any purchasers, in the certainty that they will be in a position to attach the pads to the plate in adaptation to their personal bodily circumstances. The design is simple and can be manufactured cheaply. The displacement of the electrode pads may be effected rapidly and easily. Projections, for example metal-button portions, which would be unpleasant on the skin, are absent from the plate. Dismantling and cleaning can also be effected easily and conveniently.

In regard to the embodiment according to Fig. 1, one of the pads 14 has not had several fastening points associated with it, because it represents a reference point for the

arrangement of the entire plate. However, it is readily possible, where necessary, to construct this pad displaceably too, by the provision of several fastening holes.

A similar arrangement may be provided for a plate for waist and hip.

Claims

1. An apparatus for electrotherapeutical treatment, in particular for strengthening the human muscles, comprising a plate and at least two electrode pads giving off electrical pulses to the nerve centres, charac- terised in that the plate is provided with at least one row of reciprocally independent holes (16), through which co-operate matching portions (22, 23; 24, 25), disposed on both surfaces of the plate, of press-fastener-like fastening elements for the pads or pad (14).

2. An apparatus according to Claim 1, characterised in that several rows of holes of the plate are disposed parallel or oblique and/or transverse to one another.

3. An apparatus according to Claim 1 or 2, characterised in that the holes (16) of each row are disposed together in groups in order to facilitate the displacement of the pad (14).

4. An apparatus according to any one of Claims 1 to 3, characterised in that the matching portions (24, 25) of the press-fastener-like fastening elements, which are disposed on the surface of the plate directed away from the pad or pads, are supported by flat strips (26).

5. An apparatus according to any one of Claims 1 to 4, characterised in tha t at least two fastening elements are associated with each pad (14), and in that each supporting strip (26) has a corresponding number of matching portions (24, 25).

21 g 23-01 Int: 24.03.1970 OT: 07.10.1971
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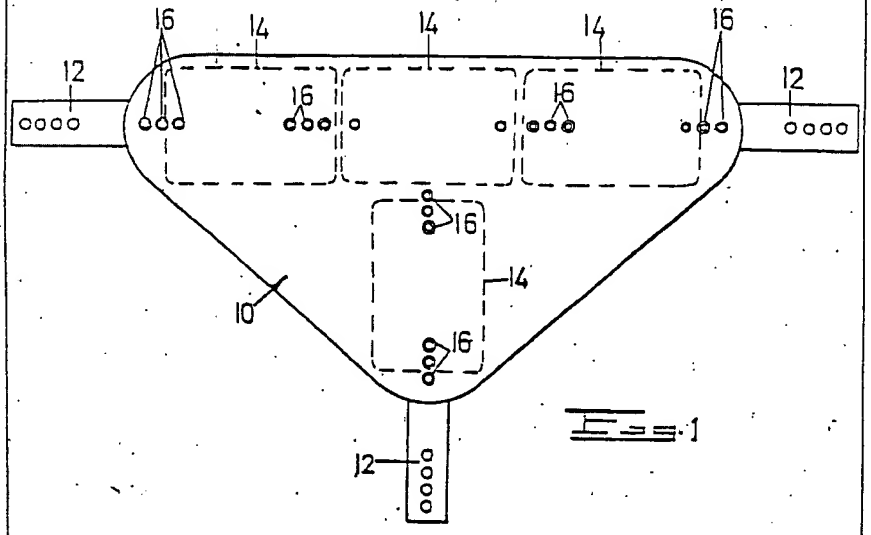

Fig. 1

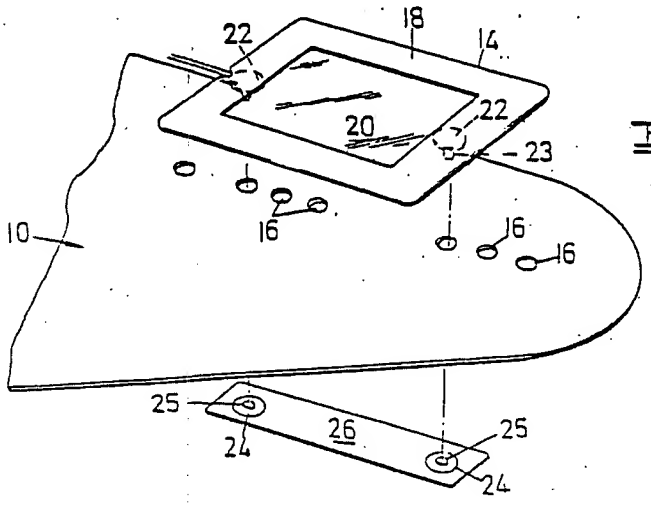

Fig. 2